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ABSTRACT

This study was conducted to determine if those involved with vocational-technical students realize the importance of oral communication skills for votech graduates and to determine if those in a position to act on this awareness do so. Data were gathered from votech teachers, craft committee members (tradespersons advising votech school faculty and administration), co-op employers, and senior votech students, all associated with the Erie County Technical School (Pennsylvania). Respondents were asked to compare the relative importance of data, people, and things (categories described in the federal government's "Dictionary of Occupation Titles") by assigning percentages to them or by rating them on a one-to-five scale. Results revealed that the "people" category and oral communication skills were collectively considered as highly important to students' future job success. Results also revealed that votech teachers reported significantly less actual classroom attention to oral communication skills (only 32%) than indicated in their statements of its importance, and home school English teachers devoted only 24% of their time to teaching oral communication. Based on these findings, a workshop was conducted to sensitize home school English teachers to the particular nature of vocational education and the need for more direct teaching of oral communication to prepare students for the work environment. (Two tables of data are included; three appendixes containing surveys for votech and home school teachers and employers are attached.) (KEH)

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VOCATIONALIZING HIGH SCHOOL SPEECH CURRICULA

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VOCATIONALIZING HIGH SCHOOL SPEECH CURRICULA

"All other things being equal, it is not the superior skill in the processes of the occupation which will determine an individual's advancement; it is the superior skill in oral communication."[1] With these words in 1954, William Hawley identified the key basic skill needed of all high school students, whether they be in an academic, general, or vocational curriculum. In the over thirty years since then, numerous researchers, teachers, and employers have observed that training students in oral communication is a very important part of preparing them for the world of work whether at the entry level or for advancement. High schools should give priority to oral communication, requiring all students to complete a course in speaking and listening.[2]

Much research has been undertaken to provide the necessary background understanding of high school students' communication needs, abilities, and experiences. Curricula subsequently developed for high school speech courses have generalized needs for interpersonal, career-oriented, and citizenship speech skills as their foundation.

There is one category of high school students, however, for whom those general needs can be identified and stated in more specific terms, thus making it possible to develop a particularized oral communication curriculum for them. That category is the vocational-technical student population. Educators have an advantage with these votech students because their career goals are much more definite, precise, and immediate than those of other students. So, while the oral communication skills they need for interpersonal interaction and citizenship responsibilities are the same as those for all high school students, their career-oriented communication needs are unique in their clarity.

Some specification of proposed high school speech curricula for the votech population would seem a useful complement to existing plans for high school audiences broadly.

The need for curricular development in this area is supported by recent research indicating comparatively high levels of communication apprehension among students preparing for service jobs in the manufacturing sector. Bennett and Jandt's study indicated that students' vocational choices may be effected by their concerns about their abilities to perform oral communication tasks necessary for "higher" managerial positions within manufacturing.[3]

Literature in the field of vocational-technical school curriculum clearly asserts that basic skills instruction is as critical to the students' job success as technical trade instruction. Within the broad area of basic skills, oral communication or oral English is highly ranked when considering the question of the relationship between the basic skills and subsequent job success. In the summary report produced by the Illinois State Board of Education, for example, employers rated the "generalizable skills" across all vocational education curricula in the state. The single skill considered most generalizable (most important in all trades included in the curricula) was "interpersonal relations."[4] Interpersonal relations is defined as using oral communication to work with peers and interact with superiors and the public. An earlier survey of actual employers of technical school graduates concluded similarly that interpersonal communication skills as well as small group discussion skills are necessary for job success and advancement.[5]

The Painter study, which analyzed the English competencies needed by graduates of technical institutes, revealed that in the view of teachers and administrators, listening

and various specific types of speaking were more important than written English skills.[6] It is worth noting that the particular need for listening skills among vocational-technical school graduates is quite prominent in the literature. A 1980 survey of technical school graduates regarding the communication skills they actually used on the job ranked effective listening as number one.[7] It is significant that this survey included graduates from diverse disciplines ranging from auto body to drafting to electronics to cosmetology. From the varied points of view of graduates, teachers, administrators, and employers, there is consistent testimony to the value of oral communications instruction in technical curricula.

This position is confirmed by the findings of the Carnegie Commission. In their 1983 report on secondary education, the need to upgrade the basic skills elements in technical school curricula was noted. Their survey of American businesses revealed that over half of the respondents believed that the high school graduates they hired had serious problems with speaking and listening effectively. The Commission further asserted that any technical school which provides job training at the expense of a quality general education is short-changing its students by restricting their future options.[8]

That needed curricular balance between technical and general education is more specifically confirmed and described by the federal government in its Dictionary of Occupational Titles (hereafter referred to as DOT). Each of the Occupational Titles in the DOT is assigned a unique nine-digit code, part of which indicates the comparative need for three worker functions: working with DATA, PEOPLE, or THINGS. Understanding this

code, specifically the code for PEOPLE, can help one to identify the oral communication skills typically expected of workers in a given job.

Each DOT Worker Function is divided into numbered levels with increasing complexity of tasks indicated by lower numbers. Hence, by checking the number assigned in the PEOPLE category (digit 5), one can determine the degree to which workers would be expected by the Department of Labor to demonstrate interpersonal communication skills. Jobs typical of those held by votech school graduates (e.g., cook, carpenter, mason, sheet metal fabricator, auto mechanic, hair stylist) are assigned PEOPLE numbers running from 2 to 8. This range indicates that persons in such jobs will need a variety of interpersonal communication skills ranging from "instructing," "supervising," and "persuading" to "serving" and/or "helping."[9] Whether communicating with fellow workers, taking instructions, asking clarification questions, training others, or interacting with customers, oral communication is a necessary worker function for votech school graduates.

It is clear, then, that a variety of sources have identified a need for oral communication training for the votech school student. With this conclusion in mind, we set out to investigate two questions:

A. Do those involved most directly with votech students realize the importance of oral communication skills for votech graduates? and

B. Do those most in a position to act on this realization, do so? If so, how?

METHOD

In order to answer the first research question, those most directly involved with votech students were identified. We selected votech teachers, craft committee members (tradespersons advising votech school faculty and administration), co-op employers, and senior votech students, all associated with the Erie County Technical School, the Area Vocational-Technical School in Erie County, Pennsylvania (hereafter referred to as ECTS).

Interview-type surveys were used as the primary vehicle for collecting data (see Appendices). All responding, including the votech teachers, were provided with a brief explanation of the DATA, PEOPLE, and THINGS categories as described in the DOT. After respondents understood that all jobs require workers to function to some degree in each of these three categories, they were asked to compare the relative importance of the three either by assigning percentages to them or by rating them on a one-to-five scale.

Employers were asked to assign percentages to the three worker functions DATA, PEOPLE, and THINGS indicating the relative emphasis they consider among the three when evaluating their employees. Craft committee members were asked to assign percentages to the same three categories of worker functions indicating the relative instructional attention they felt should be given to those functions of votech students.

Senior votech students currently taking part in a co-op work experience were asked to evaluate the relative importance of DATA, PEOPLE, and THINGS in their trades. These senior-level students would be in a position to reflect the perceptions their co-op supervisors and instructors convey to them about the three worker functions.

Since the ECTS operates on a week-about attendance pattern (one week at the votech school and one week at one of ten county academic home schools), home school English teachers were also surveyed. These respondents were asked how important they perceived oral communication skills to be for votech students' future job success. Data were also obtained through a mail survey to English teachers of votech students from across the state of Pennsylvania. These teachers were asked to identify the specific communication skills most useful to votech graduates and, if skills were identified, asked how they identified the skills.

In order to answer the second research question ("Do those who realize the importance of oral communication skills act on this realization?"), we further asked votech teachers how they divide their instructional time among DATA, PEOPLE, and THINGS; asked in which of the three areas they felt most and least prepared; and asked to identify what percentage of time they apportion to lecture vs. practice within each of the skill areas related to the three categories of worker functions. Each teacher was also personally interviewed using a more informal, open-ended format. Information gained here was used to help answer both of the research questions.

Home school English teachers were asked how they divide their instructional time among literature, writing, and speaking. Regarding the speech instruction, they were asked to what degree speaking assignments are related to a votech student's career area, and asked how aware they feel they are of the oral communication skills needed by votech graduates.

Additional efforts to answer the second research question centered upon the goals, specific objectives and/or competency-based statements available in each votech lab's curriculum guide. An examination of the contents of these curriculum guides acted as a crosscheck of the degree to which instructors addressed the oral communication needs of students. The greater the number of goals, specific objectives and/or competency-based statements relating to oral communication, the more likely that area would be addressed. Further, the sheer number of these oral communication statements listed gives an indication of the relative importance of the PEOPLE category, in general, and oral communication in particular.

RESULTS

Perceived Importance of Oral Communication Skills

Votech Teachers:

Instructors at the Erie County Technical School were virtually unanimous in asserting during open-ended interviews that oral communication skills are important to the future job success of their graduates. That observation was specifically enumerated as the faculty were asked to rate the comparative importance of the DOT worker functions. The average assigned percentage of the three, an indication of their relative importance by the seventeen ECTS faculty, was DATA 26%, PEOPLE 38%, and THINGS 36%. The votech faculty felt that the oral communication skills reflected by the DOT "PEOPLE" category were about as important to the students' future job success as the manipulative

or mechanical skills reflected by the "THINGS" category and significantly more important than the quantitative skills reflected by the "DATA" category.

Home School English Teachers:

English teachers of votech students at the ten county high schools served by the ECTS (referred to as home schools) reinforced the votech teachers' perceptions of the importance of oral communication skills. When asked to rate on a one-to-five scale the importance of oral communication skills, teachers' average response was 4.4 (one being "not important," five being "very important.")

A follow-up mail survey of votech English teachers in other school districts across Pennsylvania provided additional evidence of the high value placed on oral communication skills for all high school students, including those enrolled in votech. Seventy-one per cent of the respondents were able to identify specific communication skills they felt votech graduates needed. Table 1 presents twenty-four specific oral communication skills votech English teachers perceived as helpful to students in their careers.

Table 1

Analysis of Skills Identified by English Teachers

Oral Communication Skill Needed by Votech Students	Frequency of Citation
Interviewing Skills	29
Conversation	13
Following Directions	13
Oral Grammar	11
Talking with Customers	11
Group Discussion	11
Telephone Use	9
Public Speaking	7
Supervising Others	7
Giving Oral Explanations	7
Organizing Ideas	7
Giving Directions	7
Demonstrating Tasks, Impromptu Speaking, Semantics, Debate, Interpersonal Speaking, Social Skills, Sales Techniques, Persuasion, Working as a Team, Conflict Management, Questionning	<7

Employers:

Local employers of votech graduates were asked how heavily they weight the three DOT worker functions in evaluating employee performance. They cited DATA 24%, PEOPLE 36%, and THINGS 36%. According to employers, votech graduates need oral communication skills virtually as much as they need mechanical skills and significantly more than they need quantitative skills. Representatives of the thirteen active craft committees stated only slightly different percentages when asked what instructional attentions should be placed on the three worker functions. Their responses averaged DATA 29%, PEOPLE 32%, and THINGS 39%.

Co-op Students:

During group interviews, the senior co-op students stressed their perception that oral communication skills are quite important to job success. Many of their supervisors provided on-the-job informal instruction in oral communication since interacting with the public and their co-workers was a significant part of their jobs. Co-op students assigned DATA a value of 18%, PEOPLE a value of 40%, and THINGS a value of 42%.

All of the testimony solicited about the perceived importance of oral communication skills to votech students supported our hypothesis that most people directly involved in vocational education value oral communication skills. This conclusion is further verified in the written evidence of ECTS curriculum guides.

ECTS Curriculum Guides

The curriculum guides, officially known as A PLANNED COURSE IN CARPENTRY, or A PLANNED COURSE IN HEALTH ASSISTANT, etc., for the seventeen ECTS labs were reviewed. These guides are typical of those found in other votech schools and include goal statements, hours devoted to major topics, and lists of objectives describing what is to be accomplished in the first, second and (if applicable) third years of study. The objectives are often in the familiar performance-based or competency-based form of, "By the end of the first year, students will be able to . . . ."

Table 2 summarized the "Goals," "Hours," and "Objectives" contained in the curriculum guides that relate to oral communication. "Goals" were most often grouped under sub-headings such as Communication Skills, Mathematics, Self-Esteem, Analytical Thinking, Understanding Others, and Citizenship. Faculty were free to tailor their specific goal statements to their individual lab.

Column one in Table 2 indicates the proportion of goals devoted to oral communication. For instance, Maintenance Technology with a column entry of 5/39, indicates that 5 of the 39 goals listed deal with communication skills. Examples of goals listed include, "Students will be able to verbally communicate using basic trade terms in a manner reflecting trade competency," and "Students will be able to work cooperatively as a team."

Oral communication goals display a range of emphases, from 1 in 10 in Machine Shop, to 7 in 25 in Commercial Foods. What is more important is that the majority of the

labs do identify a number of goals related to the development of oral communications skills.

Table 2

Analysis of Planned Courses

Shop	Goals	Hours			Objectives		
		1st	2nd	3rd yr	1st	2nd	3rd yr
Carpentry	None Listed	0/540	0/540	0/540	0/62	0/71	-
Maintenance	7/39	0/540	0/540	0/540	0/34	0/24	0/3
Drafting	4/29	0/540	0/540	0/540	0/11	0/9	0/9
Metal Fabrication	9/57	1/540	0/540	10/540	0/52	0/26	1/10
Machine Shop	1/10	0/540	-	-	10/130	-	-
Health Assistant	3/53	50/540	0/540	-	2/20	1/18	-
Auto Body	6/32	0/540	0/540	0/540	0/10	0/11	1/9
Tool and Die	8/45	-	0/540	0/540	-	0/63	0/43
Commercial Art	8/63	0/540	0/540	-	1/64	1/64	-
Commercial Foods	8/46	28/540	48/540	80/540	0/12	0/12	0/10
Graphic Communication	5/21	30/540	20/540	-	0/83	1/16	-
Computer Programming	5/36	0/540	0/540	-	3/51	0/41	-
Masonry	15/54	0/540	0/540	0/540	1/4	0/3	0/4
Electronics	7/29	0/540	0/540	0/540	0/18	0/16	0/10
Cosmetology	6/29	0/540	0/540	0/540	0/91	0/67	0/61
Auto Mechanics	7/53	0/540	0/540	0/540	3/20	3/20	3/20

Actual Teaching of Oral Communication

Votech Teachers:

Faculty both at the ECTS and the associated home schools reported significantly less actual classroom attention to oral communication than one might assume based upon their statements of its importance. In answering the survey question about instructional time committed to oral communication skills, the votech teachers indicated that they spent an average of 32% of their time teaching PEOPLE skills, 42% of their time teaching THINGS skills and 26% of their time teaching DATA skills. Further, the teachers stated that their method of teaching the oral communication skills could be described as 41% lecture and 55% practice. However, questioning of teachers during interviews revealed that most instruction in the oral communication skills related to the people function is actually quite incidental to teaching the mechanical and quantitative skills. Instruction seems to be by trial and error in that the students are involved in role plays and discussion of hypothetical job situations followed by teacher comments relevant to the communication skills displayed. The traditional lecture method of explanation and explication of principles preceding student demonstration of comprehension of those principles does not occur often in the ECTS in teaching oral communication.

The second column in Table 2, "Hours," is very revealing regarding the actual teaching of oral communication skills. Although hours are assigned to specific divisions (e.g., Carpentry with 50 hours for Working Drawings and 75 hours for Orthographic Projection), few hours out of the 540 yearly total in each lab are assigned to teaching/practicing oral communication skills.

One might argue that oral communication skills are automatically practiced while meeting other goals and thus do not need to be singled out via dedicated hours of instruction. But, as noted by John Poulakos, chairman of the committee authoring the Pennsylvania "Basic High School Speech Course," quality programming in speech communication should include specific instruction prior to student involvement in any communication exercises.[10] Safety, by comparison, is another topic that one could claim is best addressed while accomplishing other goals. Yet, several labs dedicate specific hours to the teaching of Safety.

The third column in Table 2, "Objectives," attempts to translate the goals into more specific student behaviors that are to be mastered by votech students. The numerator of the fractions shown indicates the number of objectives dedicated to oral communication skills. The denominator indicates the total number of objectives listed for the year. Most often the numerator for oral communication skills is zero, thus indicating that not a single objective (sometimes out of 50 or more) addresses students' mastery of oral communication skills.

Overall, Table 2 reveals that although oral communication goals are identified, little in the way of dedicated time (Hours) or identification of specific behaviors to be mastered (Objectives) is included as means to achieve these goals. If oral communication skills are being mastered by votech students, then it is happening in spite of what appears in the curriculum guides.

Home School English Teachers:

One reason cited by some votech faculty for not paying more attention to teaching oral communication skills was an assumption that communication instruction could best take place during English classes at the home schools. English faculty surveyed at the ten home schools indicated, however, comparatively little emphasis on oral communication instruction. Teachers reported that of the total time votech students spend in English classes, about 36% of their time is devoted to studying literature; about 40% is devoted to studying writing; and about 24% is devoted to studying oral communication (speaking and listening). Although votech students could be receiving instruction from both the tech school and their home school in how to plan speeches, participate in interviews, talk on the phone, give instructions, participate in group discussions, demonstrate tasks, follow directions, etc., minimal direct instruction in these areas is taking place in either setting.

DISCUSSION

The purpose of this study was: 1) to determine if those involved with votech students realize the importance of oral communication skills for votech graduates and 2) to determine if those in a position to act on this awareness do so. It is clear from a review of the literature, an examination of the Dictionary of Occupational Titles, a review of votech curriculum guides, and from formal and informal feedback from votech teachers, craft committee members, employers, home school English teachers, and votech co-op students that speech communication skills are judged to be important for votech

graduates' future job success, yet are not presently being taught. Whether in home school English classes or as a unit in vocational classes, oral communication skills should be taught to votech students. More specifically, they should be directly taught, not left to be inferred by the students from incidental references during DATA-oriented or THINGS-oriented lectures and exercises. With these conclusions in mind, a set of workshops was designed to help prepare both vocational teachers and English teachers to incorporate oral communication instruction in their teaching.

TEACHER WORKSHOPS

The first program, a mini-workshop for the votech lab instructors, was conducted to share with them our conclusions to date and to give them an opportunity to contribute to the development of specific oral communication objectives pertinent to their to their shops. Through this workshop, it became clear that the oral communication emphasis needed in the students' training would most appropriately take place in the home school curriculum. While the tech faculty indicated a sensitivity to the students' communication needs, they felt they had neither the time nor the expertise to implement the communication instructional objectives in the lab setting. Thus, the groundwork was laid for working more intensively with the home school English teachers.

Since the workshop for English teachers could be most successful if conducted at the votech school where teachers could be immersed in the votech world, a small grant was written to obtain funds necessary to pay for substitute teachers to replace the workshop participants at their home schools. Also, a preliminary meeting was held with

school district superintendents and high school principals to acquaint them with the workshop's goals and secure their support in nominating teacher participants. The final preliminary task involved meeting with the votech teachers in order to help them plan for the visiting teachers' participation in their shops. The votech teachers were asked to select students who could serve as "shop-tutors" for the English teachers who would be working in their labs and to plan a project for the English teachers so that they could have a hands-on involvement in the votech experience during their stay.

The workshop itself began with a 45-minute welcome and orientation session. Then the student tutors arrived to escort their assigned English teachers to designated labs. During the remainder of the morning and through most of the afternoon, the English teachers worked under the tutelage of their student "instructors" on such projects as making a metal wastebasket in the Sheet Metal lab; creating posters in Commercial Art; making an aluminum meat mallet in Tool and Die; and repairing a muffler system in Auto Mechanics. Participants had a mid-morning and a lunch break just as the votech students. This first day concluded with brief presentations by auxiliary staff members of the votech administration. By day's end, the teachers had begun to realize--from their own experience--the very prominent role played by oral communication in the vocational world and the students' shortcomings in that area.

The second day included a tour of the complete votech facility in order to familiarize the participants with shops outside of the one in which they had been working. Votech faculty in each trade area spoke briefly about the specific role of oral communication skills in their trade as the tour visited. The participants then were given

the rest of the morning to complete their shop project before returning to the library for a time of sharing and reflection on the two days' activities. The workshop leaders had been taking Polaroid pictures throughout the two days so that the pictures could be used to stimulate reflection during the final meeting. The participants explained both what they had done in their shop and how they had felt while being involved in the other half of their students' educational experience.

Their reflections and suggestions covered a wide range of ideas that could be incorporated into the communication curriculum for votech students. Of particular interest is the fact that the teachers concluded that they had not been sufficiently demanding of their students. After experiencing the vocational world, they realized that when these students graduate and go to work they will do so in environments that expect precision. Therefore, they felt it would be appropriate and helpful to demand such precision now in the students' written and oral work. For instance, while all high school students need to study vocabulary in order to become more articulate adults, votech students have a particular need to perceive and make fine distinctions among terms. Consequently, their vocabulary lessons need to be more extensive and specialized then the lessons of the general student population.

CONCLUSION

Feedback from the teacher participants, the student tutors, and the votech faculty following the two-day workshop was universally supportive. All three groups felt that the experience helped to establish an appropriately positive image of vocational education in

general and, in particular, helped to begin the very important process of providing votech students with stronger oral communication skills. With teachers sensitized to the particular nature of vocational education through experiences such as this, we can do a more complete job of preparing votech students for the oral communication demands of the work environment.

APPENDIX 1

VO-TECH TEACHERS' SURVEY

1. How do you rate the comparative importance of these three skill areas to success in your field?

_____ _____ _____ = 100%
DATA PEOPLE THINGS

2. How do you divide your actual instructional time in these three areas?

_____ _____ _____ = 100%
DATA PEOPLE THINGS

3. Of the three areas,

   which do you feel most prepared to teach? _____

   which do you feel least prepared to teach? _____

4. In terms of teaching techniques, when you teach "data" skills, what percentage of that instructional time is spent on specific lecture and what percentage on students learning by practicing the skills?

_____ _____
LECTURE PRACTICE

5. In terms of teaching techniques, when you teach "people" skills, what percentage of that instructional time is spent on specific lecture and what percentage on students learning by practicing the skills?

_____ _____
LECTURE PRACTICE

6. In terms of teaching techniques, when you teach "things" skills, what percentage of that instructional time is spent on specific lecture and what percentage on students learning by practicing the skills?

_____ _____
LECTURE PRACTICE

APPENDIX 2

HOME SCHOOL TEACHERS' SURVEY

1. How important do you perceive communication skills to be to the success of votech students in their trade?

1 ——————————————— 5
not important very important

2. How do you divide the instructional time spent in your votech English classes among the following categories?

_____ _____ _____ = 100%
Literature Writing Speaking

3. To what degree are speaking assignments in the votech English classes related specifically to technical career skills.

1 ——————————————— 5
rarely often

4. How aware are you of the communication skills needed by votech graduates?

1 ——————————————— 5
not aware very aware

REMARKS:

APPENDIX 3

EMPLOYERS' SURVEY

_____

Employer's Name

1. In evaluating your employees, how heavily do you weight their skills in these three areas?

_____ _____ _____ = 100%

DATA PEOPLE THINGS

2. How satisfied are you with beginning skill level of employees who are votech graduates in these three areas?

	Not satisfied	Very satisfied
DATA	1 _____	5
PEOPLE	1 _____	5
THINGS	1 _____	5

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